

Greetings again SBA2009 Team,

I am sure we are all getting excited about SBA and looking forward to getting into it, I have a few below (please refer to the Spaceward Bound website) for you to peruse. Remember, have a read of these articles with perspective, these are to give you some background for SBA and connection to other research and experiences that have occurred. Please, don't get bogged down in all the details, the readings are there for you to get into the frame of mind for the field, so have a look, jot down a point or two and remember, what do we as educators take from this, what could we pass on to our students?

<http://quest.arc.nasa.gov/challenges/marsanalog/background.html>

The above article, general as it is, is excellent in providing the concepts of why scientists are investigating areas on Earth as a training ground for Mars. Areas being examined are harsh or extreme locations, where it is too difficult for humans and larger organisms to survive. Extreme environments include volcanoes, deep underground, hydrothermal sea vents, glaciers, and the bottoms of permanently ice-covered Antarctic lakes. As scientists learn more about how these microbes/ extremophiles live and survive, they use that knowledge to focus their search for life on Mars and potentially other exciting places- Venus, Io, Europa, Titan or even in the suggested salty lakes of Enceladus.

Applications to Mars, well it is quite dry on Mars, exceptionally so, if we are going to detect life, how will we look and where?

<http://quest.nasa.gov/projects/spacewardbound/docs/McKay2002AtacamaAdAstra1.pdf>

In the above article, listed as one of the resources for interesting readings for the Atacama, Chris McKay highlights this region and microbial photosynthesis from cyanobacteria and thresholds for life existence, important concepts and important considerations for eventual comparisons to the Flinders Ranges and of course for limitations on Mars.

To connect with the Atacama discussion have a quick look at the USGS article (listed in the Mojave section) about soil crusts, this can give you a quick and easy 25 word or less (well maybe 100) description of their importance in context to SBA.

<http://quest.nasa.gov/projects/spacewardbound/docs/SoilCrusts.pdf>

Linking all of these to one of the linked Australian readings-

<http://quest.nasa.gov/projects/spacewardbound/australia2009/docs/AAS%2006-257.pdf>

The above, highlights looking at geological structures to understand ancient features, specifically indications that streams and alluvial fans flowed through the Arkaroola region during the early Quaternary. Looking at the drawn conclusions is important here, linking to Martian exploration. Is all of this unrelated and unconnected, not at all, where did we start?

Follow the Water.

How is this useful for students- investigative processes, experimental, biologically, geologically, creative science, interdisciplinary even astrobiology, now there's something that will get the back row of a science class listening on a Friday afternoon.

Enjoy the reads and of course the weekend.

Regards,

Mark